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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,919	07/07/2003	Toru Ikeda	00862.023120	6943

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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

NGUYEN, MADELEINE ANH VINH

ART UNIT	PAPER NUMBER
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2625

MAIL DATE	DELIVERY MODE
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07/06/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/612,919

Applicant(s)

IKEDA, TORU

Examiner

Madeleine AV Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 3/7/07.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 6-9, 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa (US Patent No. 6,330,075) in view of Ohta (US Patent No. 5,801,855).

Concerning claim 1, Ishikawa discloses an image processing apparatus (Fig.1), comprising a converter (10) to color convert input image data, a first calculator (11), arranged to obtain error-corrected data by adding error data (output from 20) to the color-converted image data (RGB); an output section (14), arranged to select a dot pattern from a combination of dot patterns selected from a plurality of combinations of dot patterns on the basis of the error-corrected data, and output the selected dot pattern; and a second calculator (18), arranged to obtain error data by calculating a difference between a predetermined value corresponding to the output dot pattern, and the error-corrected data (col. 4, line 53 – col. 6, line 20).

Ishikawa fails to teach that the converter 10 is arranged to color-convert input image data using a three-dimensional table selected from a plurality of three-dimensional tables and an interpolation process. Ohta discloses a color image processing apparatus, which converts a first color signals (RGB) stored in a frame memory into a color signal (R'G'B') whose color image

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information is used for permanent visible representation by a printer, comprises a three dimensional LUT conversion circuit 12. Fig.2 illustrates a configuration of the three dimensional LUT conversion circuit 12 comprises table memory 63 and interpolation circuit 65 for converting RGB signals to R'G'B' signals (col. 4, line 63 – col. 5, line 16). It would have been obvious to one skilled in the art at the time the invention was made to combine the teaching of the converter 12 in Ohta to the converter 10 in Ishikawa since both of them teach a conversion from input image data RGB to output image data R'G'B' used for permanent visible representation by printer.

Concerning claims 2-3, Ishikawa in view of Ohta further teaches the apparatus according to claim 1, wherein the dot pattern expresses a combination of color dots, (col. 5, lines 4-5), (claim 2); the output section selects the combination of dot patterns in correspondence with a print medium on which the output dot pattern is printed, (col. 5, lines 4-9; col. 6, lines 21-41), (claim 3).

Concerning claim 4, Ohta further teaches that the converter selects the three-dimensional table in correspondence with a color appearance of an image to be printed by the dot pattern output from said output section (col. 3, lines 13-24; col. 4, lines 41-62; col. 6, lines 22-29).

Claims 6-9 are method claims of apparatus claims 1-4. Claims 6-9 are rejected for the same rationales set forth for claims 1-4 respectively.

Concerning claim 11, Ishikawa in view of Ohta discloses a computer program product storing a computer readable medium comprising a computer program code for an image processing method as discussed in claim 6 above.

Concerning claim 12, Ishikawa in view of Ohta discloses an image processing apparatus

as discussed in claim 1 above. Ishikawa further teaches a processor (20) to perform a color difference diffusion method corresponding to a designated conversion table (col. 5, lines 31-47; col. 6, lines 11-20).

Concerning claim 13, Ishikawa further teaches a print section arranged to print an image on which the color difference diffusion method is performed, wherein the plurality of conversion tables correspond to kinds of the print media to be printed on the image by the print section (col. 6, lines 21-55; col. 10, lines 62-67; col. 14, lines 31-59; col. 16, lines 10-14).

3. Claims 5, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa in view of Ohta as applied to claims 1 above, and further in view of Ben-Chorin et al (US Publication No. US 2005/0031199).

Concerning claims 5 and 10, Ishikawa in view of Ohta fails to teach that the plurality of three-dimensional tables include a three-dimensional table having conversion characteristics that increase a saturation of a specific hue. Ben-Chorin et al discloses a system and method of data conversion comprising a look-up-table LUT (Abstract). The LUT has a plurality of entries, each entry containing a set of n primary color values and scaleable coordinate value of a corresponding position in a two-dimensional sub-space wherein the n primary color values of each entry of the LUT may be computed to comply with the condition that a linear combination of the n primaries based on the computed values yields a maximum saturation level for predetermined hue level (paragraph 0014). It would have been obvious to one skilled in the art at the time the invention was made to combine the teaching of the LUT in Ben-Chorin et al to the LUT in Ishikawa in view of Ohta for a wider color gamut than that of conventional systems with

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limited color gamut since both of them teach color conversion from one color space to another color space.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

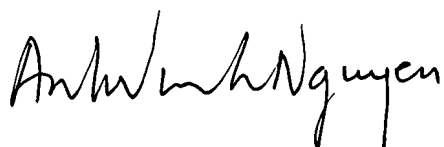
a. Konno et al (Publication No. US 2006/0187507) discloses an image recording apparatus with a dot-pattern table for storing a plurality of different dot patterns for each gradation value.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Madeleine AV Nguyen whose telephone number is 571 272-7466. The examiner can normally be reached on Tuesday-Thursday 12:30-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on 571 272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read "Madeleine AV Nguyen". The signature is fluid and cursive, with the first name "Madeleine" and last name "Nguyen" being more distinct than the middle initial "AV".

Madeleine AV Nguyen
Primary Examiner
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June 21, 2007